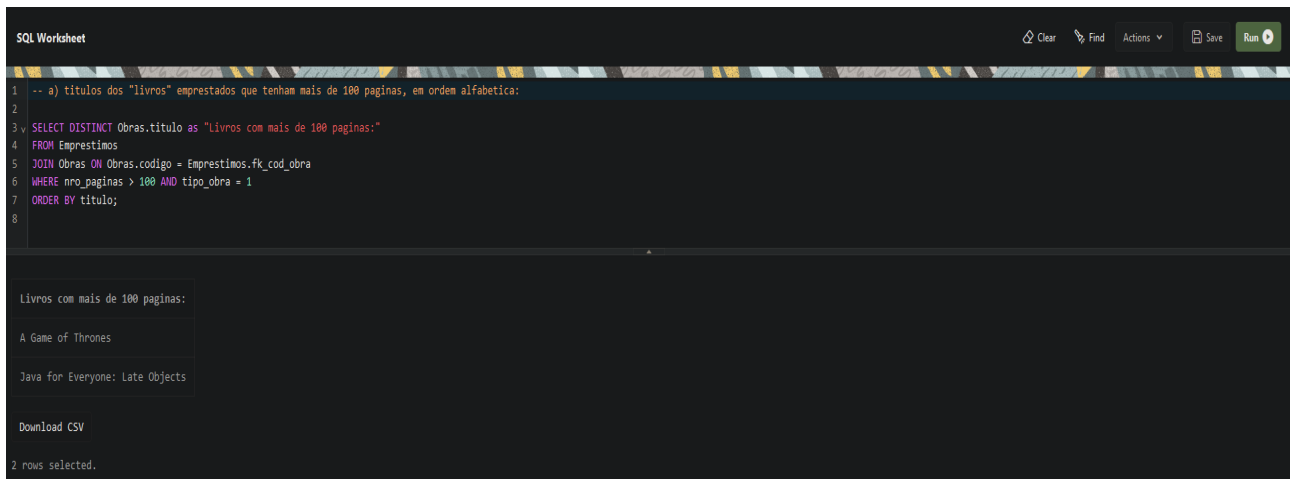


## Tarefa V — Consultas

a) títulos dos "livros" emprestados que tenham mais de 100 paginas, em ordem alfabética:

Oracle:



The screenshot shows an SQL Worksheet interface. The query is as follows:

```
1 -- a) títulos dos "livros" emprestados que tenham mais de 100 paginas, em ordem alfabética:
2
3 SELECT DISTINCT Obras.titulo as "Livros com mais de 100 paginas:"
4 FROM Emprestimos
5 JOIN Obras ON Obras.codigo = Emprestimos.fk_cod_obra
6 WHERE nro_paginas > 100 AND tipo_obra = 1
7 ORDER BY titulo;
8
```

The results section shows the following data:

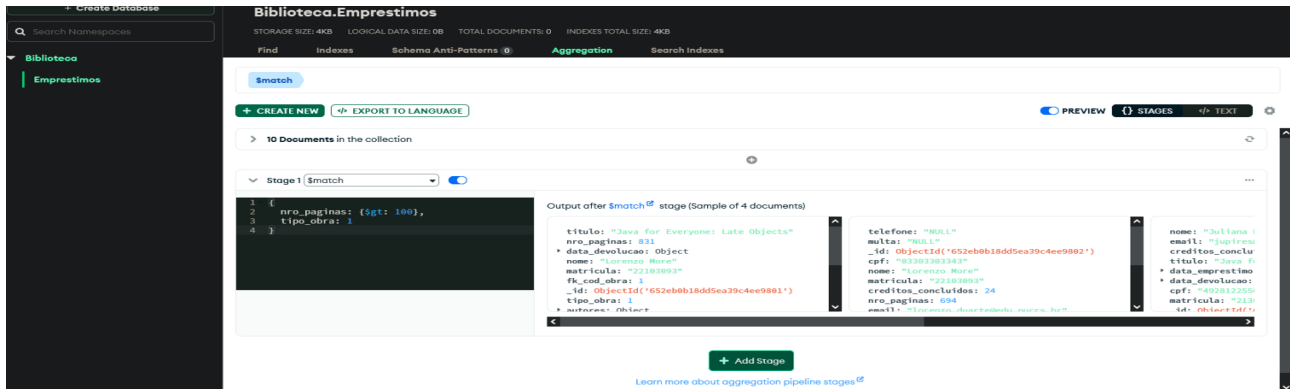
Livros com mais de 100 paginas:
A Game of Thrones
Java for Everyone: Late Objects

Download CSV

2 rows selected.

MongoDB:

\$match:



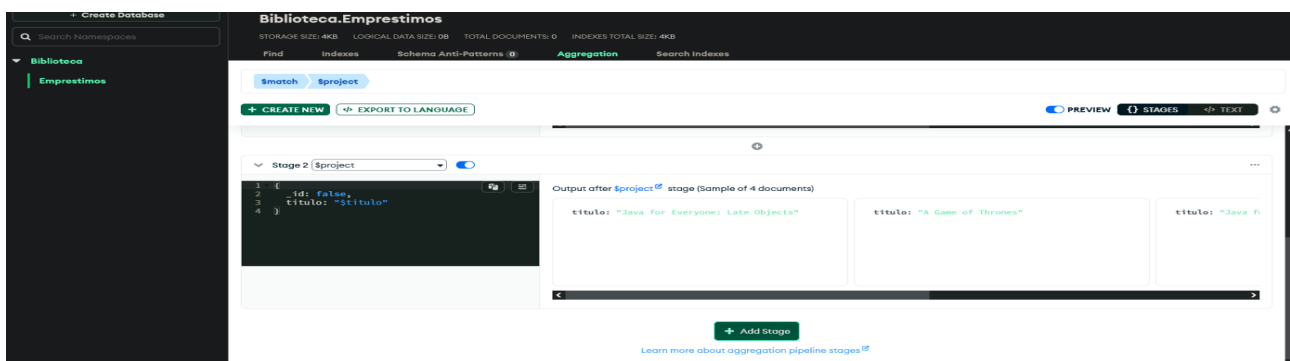
The screenshot shows the MongoDB Aggregation Pipeline interface for the 'Biblioteca.Emprestimos' collection. The \$match stage is selected, and the query is:

```
{
  nro_paginas: { $gt: 100 },
  tipo_obra: 1
}
```

The output after the \$match stage (Sample of 4 documents) is shown:

Document 1	Document 2	Document 3	Document 4
{   titulo: "Java for Everyone: Late Objects",   nro_paginas: 831,   data_devolucao: Object,   nome: "Lorenzo More",   matricula: "22183093",   fk_cod_obra: 1,   _id: ObjectId("652eb0b18dd5ea39c4ee9881"),   tipo_obra: 1,   addresses: Object }	{   telefone: "NULL",   email: "NULL",   _id: ObjectId("652eb0b18dd5ea39c4ee9882"),   cpf: "9238328343",   nome: "Lorenzo More",   matricula: "22183093",   credits_concluidos: 24,   nro_paginas: 654,   email: "Lorenzo.more@unifma.br" }	{   nome: "Juliana",   email: "Juliana",   credits_concluidos: 24,   titulo: "Java f",   data_devolucao: Object,   cpf: "9238328343",   matricula: "22183093",   _id: ObjectId("652eb0b18dd5ea39c4ee9883") }	{   nome: "Lorenzo More",   email: "Lorenzo.more@unifma.br",   credits_concluidos: 24,   titulo: "Java f",   data_devolucao: Object,   cpf: "9238328343",   matricula: "22183093",   _id: ObjectId("652eb0b18dd5ea39c4ee9884") }

\$project:



The screenshot shows the MongoDB Aggregation Pipeline interface for the 'Biblioteca.Emprestimos' collection. The \$project stage is selected, and the query is:

```
{
  _id: false,
  titulo: "$titulo"
}
```

The output after the \$project stage (Sample of 4 documents) is shown:

Document 1	Document 2	Document 3	Document 4
{   titulo: "Java for Everyone: Late Objects" }	{   titulo: "A Game of Thrones" }	{   titulo: "Java f" }	{   titulo: "Java f" }

\$group:

The screenshot shows the MongoDB Atlas Aggregation Pipeline Builder interface. The left sidebar displays the database structure for 'Biblioteca.Emprestimos'. The main workspace shows the 'Aggregation' tab with a pipeline containing one stage, '\$group'. The stage configuration shows a key of '\_id' with a value of '\$titulo'. The output preview shows two documents: one with '\_id: "Java for Everyone: Late Objects"' and another with '\_id: "A Game of Thrones"'. The interface includes buttons for 'CREATE NEW', 'EXPORT TO LANGUAGE', and 'PREVIEW'.

\$sort:

The screenshot shows the MongoDB Atlas Aggregation Pipeline Builder interface. The left sidebar displays the database structure for 'Biblioteca.Emprestimos'. The main workspace shows the 'Aggregation' tab with a pipeline containing one stage, '\$sort'. The stage configuration shows a key of '\_id' with a value of '\$titulo'. The output preview shows two documents: one with '\_id: "A Game of Thrones"' and another with '\_id: "Java for Everyone: Late Objects"'. The interface includes buttons for 'CREATE NEW', 'EXPORT TO LANGUAGE', and 'PREVIEW'.

b) tempo médio de empréstimo, em dias, das obras do tipo "revista":

Oracle:

The screenshot shows the SQL Worksheet interface. The query is as follows:

```
1 -- b) tempo medio de emprestimo, em dias, das obras do tipo "revista":
2
3 SELECT AVG(data_devolucao - data_emprestimo) as "Tempo medio de emprestimo de revistas:"
4 FROM Emprestimos
5 JOIN Obras ON Obras.codigo = Emprestimos.fk_cod_obra
6 WHERE tipo_obra = 2;
```

The result of the query is displayed in a table:

Tempo medio de emprestimo de revistas:
18.5

Below the table, there is a button labeled 'Download CSV'.

# MongoDB:

\$match:

The screenshot shows the MongoDB Aggregation Pipeline interface for the 'Biblioteca.Emprestimos' database. The pipeline is currently at Stage 1, which is the '\$match' stage. The query being executed is `{ 'tipo_obra': 2 }`. The output after the '\$match' stage is displayed as a sample of 2 documents. The first document is `{ '_id': ObjectId('652eb0b18dd5ea39c4ee9883'), 'email': 'jones.steve@edu.pucrs.br', 'multa': 2, 'nro_paginas': 512, 'tipo_obra': 2, 'data_devolucao': { '$dateFromParts': { 'day': '2020-04-18', 'month': '04', 'year': '2020' } }, 'data_devolucao': { '$dateFromParts': { 'day': '2020-04-18', 'month': '04', 'year': '2020' } }, 'data_devolucao': { '$dateFromParts': { 'day': '2020-04-18', 'month': '04', 'year': '2020' } } }`. The second document is `{ '_id': ObjectId('652eb0b18dd5ea39c4ee988a'), 'data_emprestimo': '2020-07-15T00:00:00.000+00:00', 'data_devolucao': '2020-07-29T00:00:00.000+00:00' }`.

\$project:

The screenshot shows the MongoDB Aggregation Pipeline interface for the 'Biblioteca.Emprestimos' database. The pipeline is currently at Stage 2, which is the '\$project' stage. The query being executed is `{ 'data_emprestimo': { '$dateFromParts': { 'day': '$data_emprestimo.dia', 'month': '$data_emprestimo.mes', 'year': '$data_emprestimo.ano' } }, 'data_devolucao': { '$dateFromParts': { 'day': '$data_devolucao.dia', 'month': '$data_devolucao.mes', 'year': '$data_devolucao.ano' } } }`. The output after the '\$project' stage is displayed as a sample of 2 documents. The first document is `{ '_id': ObjectId('652eb0b18dd5ea39c4ee9883'), 'data_emprestimo': '2020-04-18T00:00:00.000+00:00', 'data_devolucao': '2020-04-17T00:00:00.000+00:00' }`. The second document is `{ '_id': ObjectId('652eb0b18dd5ea39c4ee988a'), 'data_emprestimo': '2020-07-15T00:00:00.000+00:00', 'data_devolucao': '2020-07-29T00:00:00.000+00:00' }`.

\$group:

The screenshot shows the MongoDB Aggregation Pipeline interface for the 'Biblioteca.Emprestimos' database. The pipeline is currently at Stage 3, which is the '\$group' stage. The query being executed is `{ '_id': false, 'media': { '$avg': { '$divide': [ { '$subtract': [ '$data_devolucao', '$data_emprestimo' ] }, 1 ] }, '$data_devolucao' } } }`. The output after the '\$group' stage is displayed as a sample of 1 document. The document is `{ '_id': false, 'media': 10.5 }`.

c) obras do tipo 'TÍTULO: subtítulo', por ordem alfabética. Exemplo: "Java for Everyone (TÍTULO): Late Objects (subtítulo)":

## Oracle:



The screenshot shows an SQL Worksheet interface. The query is as follows:

```
1 -- c) obras do tipo 'TÍTULO: subtítulo', por ordem alfabética. ex: "Java for Everyone (TÍTULO): Late Objects (subtítulo):  
2  
3 SELECT DISTINCT Obras.titulo as "Obras do tipo 'TÍTULO: subtítulo':"  
4 FROM Emprestimos  
5 JOIN Obras ON Obras.codigo = Emprestimos.fk_cod_obra  
6 WHERE titulo LIKE '%: %'  
7 ORDER BY titulo;
```

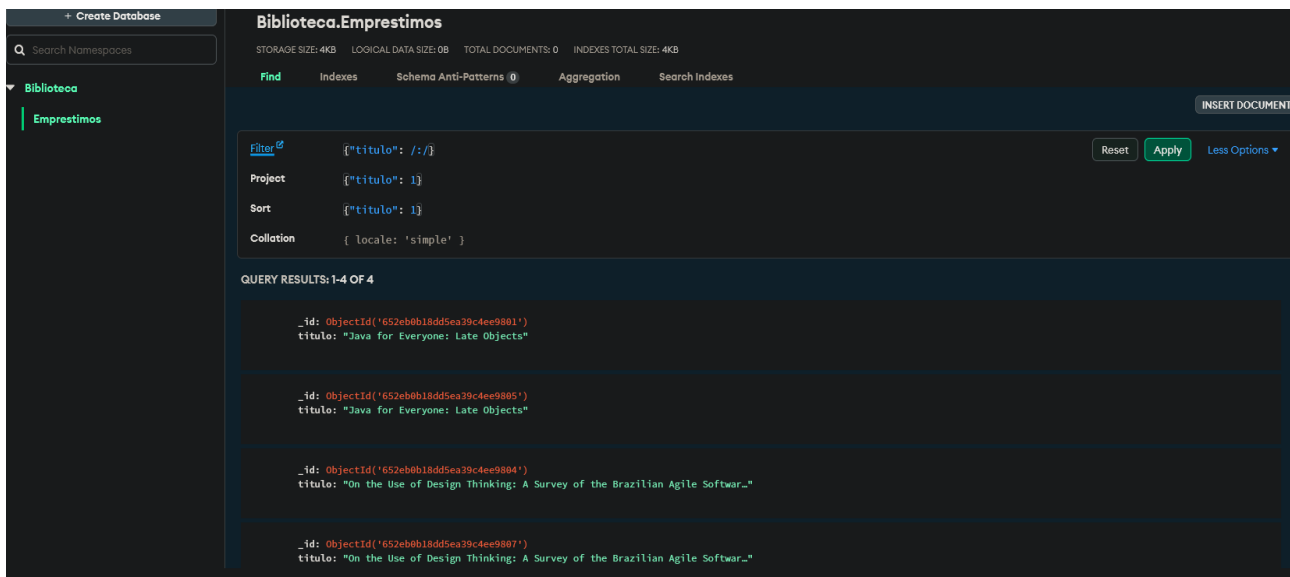
The results are displayed in a table with the header "Obras do tipo 'TÍTULO: subtítulo':".

Obras do tipo 'TÍTULO: subtítulo':
Java for Everyone: Late Objects
On the Use of Design Thinking: A Survey of the Brazilian Agile Software Development Community

Download CSV

2 rows selected.

## MongoDB:



The screenshot shows the MongoDB Compass interface. The database is "Biblioteca.Emprestimos". The query is as follows:

```
{ "titulo": /.:/ }
```

The results are displayed in a table with the header "QUERY RESULTS: 1-4 OF 4".

QUERY RESULTS: 1-4 OF 4
{ "_id": ObjectId("652eb0b18dd5ea39c4ee9801"), "titulo": "Java for Everyone: Late Objects" }
{ "_id": ObjectId("652eb0b18dd5ea39c4ee9805"), "titulo": "Java for Everyone: Late Objects" }
{ "_id": ObjectId("652eb0b18dd5ea39c4ee9804"), "titulo": "On the Use of Design Thinking: A Survey of the Brazilian Agile Softwar..." }
{ "_id": ObjectId("652eb0b18dd5ea39c4ee9807"), "titulo": "On the Use of Design Thinking: A Survey of the Brazilian Agile Softwar..." }